Amendments to the Claims:

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1-10. (Canceled).

11. (New) An interferometric measuring device for recording at least one of a shape, a roughness and a separation distance of a surface of a measuring object, comprising:

a modulating interferometer for receiving short-coherent radiation by a radiation source, and having a first beam splitter for splitting supplied radiation into a first beam component guided via a first arm, and into a second beam component guided via a second arm, of which one is shifted with respect to the other, with a modulating device in one of its light phase and light frequency, and passes through a delay line, and which are subsequently combinable at an additional beam splitter of the modulating interferometer;

a measuring probe spatially separated from the modulating interferometer and at least couplable to it via a light-conducting fiber arrangement, in which the combined beam components are split in a common arm in a partially transmitting region into a measuring beam and a reference beam, and in which the measuring beam reflected at the surface and the reference beam reflected at a reference plane are superposed; and

a receiver device and an evaluating device for converting the radiation supplied to it into electrical signals and for evaluating the signals based on the phase difference;

wherein the partially transmitting region (3.3) is formed by a slanting exit face of a probe fiber at an exit angle with respect to an optical probe axis and a likewise slanting entrance face of a fiber section following on the object side, with respect to the optical probe axis at an entrance angle, a wedge-shaped gap being formed between the exit surface and the entrance face.

12. (New) The device of claim 11, wherein the exit face and the entrance face are inclined in a same direction with respect to the probe axis.

13. (New) The device of claim 11, wherein the exit angle and the entrance angle are selected so that a Fresnel reflection is effected.

14. (New) The device of claim 11, wherein the exit angle is between 5^0 and 8^0, and the entrance angle is between α and 0^0.

15. (New) The device of claim 11, wherein the probe fiber and the fiber section are accommodated in a tubule-shaped accommodation axially aligned, which is surrounded by an outer tube of a measuring probe.

16. (New) The device of claim 15, wherein on an end face of the accommodation that is distant from the measuring object, a positioning piece surrounds the probe fiber and is accommodated concentrically to the tube, and the fiber section is fixed in the object-side, front part of the accommodation and the probe fiber is fixed in the rear part of the accommodation that is at least one of distant from the object and in the tube.

17. (New) The device of claim 16, wherein:

the front part of the accommodation is separated from the rear part of the accommodation by diametrically opposite gaps, one gap being limited at the rear as an elongation of the slanting exit face of the probe fiber, and the other gap being limited at the front in an elongation of the slanting entrance face, and

the front part and the rear part of the accommodation are surrounded by a common sleeve-shaped retaining ring, which is surrounded on its outside by the tube.

18. (New) The device of claim 11, wherein a front section of the fiber section has a lesser diameter compared to its rear section.

19. (New) The device of claim 11, wherein an object-side exit face of the fiber section is inclined to a axis normal at an exit angle of at least 46^0.

20. (New) The device of claim 11, wherein the modulating interferometer includes at least partially a polarization-maintaining light-conducting structure which is one of an optical fiber conductor and an integrated optics arrangement, the light-conducting structure having at least one arm opened.